# BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
# COLUMBIA, SOUTH CAROLINA

**HEARING #15-11488 JULY 22, 2015 10:00 A.M.**

**DOCKET NO. 2015-103-E:**
SOUTH CAROLINA ELECTRIC & GAS COMPANY – *Petition of South Carolina Electric & Gas Company for Updates and Revisions to the Capital Cost Schedule and Schedules Related to the Construction of a Nuclear Base Load Generation Facility at Jenkinsville, South Carolina*

**TRANSCRIPT OF TESTIMONY AND PROCEEDINGS** **VOLUME 3 OF 3**

**HEARING BEFORE**: Nikiya M. 'Nikki' HALL, *Chairman;* Swain E. WHITFIELD, *Vice Chairman;* and COMMISSIONERS John E. 'Butch' HOWARD, Elliott F. ELAM, JR., Comer H. 'Randy' RANDALL, Elizabeth B. 'Lib' FLEMING, and G. O'Neal HAMILTON

ADVISOR TO COMMISSION: F. David Butler, Esq.
Senior Counsel

**STAFF**: Joseph Melchers, General Counsel; James Spearman, Ph.D., Executive Assistant to Commissioners; David W. Stark, III, Esq., Legal Staff; Philip Riley, Doug Pratt, Lynn Ballentine, and Tom Ellison, Advisory Staff; Jo Elizabeth M. Wheat, CVR-CM/M-GNSC, Court Reporter; and William O. Richardson and Colanthia Alvarez, Hearing Room Assistants

## APPEARANCES:

***K. CHAD BURGESS, ESQUIRE, MATTHEW W. GISSENDANNER, ESQUIRE, MITCHELL WILLOUGHBY, ESQUIRE, and BELTON T. ZEIGLER, ESQUIRE,*** representing SOUTH CAROLINA ELECTRIC & GAS COMPANY, PETITIONER

## APPEARANCES (Cont'g):

***SCOTT ELLIOTT, ESQUIRE,*** representing SOUTH CAROLINA ENERGY USERS COMMITTEE, **INTERVENOR**

***ROBERT GUILD, ESQUIRE,*** representing SIERRA CLUB, **INTERVENOR**

***JEFFREY M. NELSON, ESQUIRE, and SHANNON BOWYER HUDSON, ESQUIRE,*** representing the **SOUTH CAROLINA OFFICE OF REGULATORY STAFF**

**BY MR. WILLOUGHBY:**

**Q** Ms. Walker, would you please state your name for the record?

**A** [WALKER] Carlette Walker.

**Q** And by whom are you employed and in what capacity?

**A** [WALKER] SCANA Corporation. I'm the VP of Nuclear Finance Administration.

**Q** And in connection with this proceeding, Ms. Walker, did you cause to be prepared and prefiled direct testimony consisting of 37 pages?

**A** [WALKER] I did.

**Q** As to the testimony, are there any corrections?

**A** [WALKER] Yes.

**Q** Would you direct our attention as to where?

**A** [WALKER] If you would go to page 17, line one, following the words "eligible for," if you could insert "a projected benefit of."

**Q** And then that sentence would read, beginning on page 16, as corrected, "Moreover, SCE&G will be eligible for a projected benefit of $2.2 billion in federal production tax credits if the units are in commercial service by December 31, 2020." Did I read it correctly?

**A** [WALKER] That's correct.

**Q** Are there any other corrections to be made to the testimony?

**A** [WALKER] No.

**MR. WILLOUGHBY**: Madam Chair — well, I have one other question.

**BY MR. WILLOUGHBY**:

**Q** If I asked you the questions that appear in the testimony, as corrected, would your answers be the same from the witness stand here today?

**A** [WALKER] They would be.

**MR. WILLOUGHBY**: Madam Chair, I'd move the introduction of the testimony as if given orally from the stand.

**CHAIRMAN HALL**: All right. Ms. Walker's testimony will be entered as if given orally.

*[See pgs 602-638]*

**BY MR. WILLOUGHBY**:

**Q** And, Ms. Walker, in connection with your testimony, did you have seven exhibits, and those exhibits I think were filed — seven exhibits, or CLW-1 through -7 — were filed in a public version and in a confidential version, as well; is that correct?

**A** [WALKER] That's correct.

**Q** Are there any corrections to be made to the exhibits?

**A** [WALKER] Yes, I have one exhibit that needs to be corrected.

**Q** Would you tell us which exhibit, and direct our

attention to what needs to be corrected.
**A** [WALKER] Yes. If you'll go to Exhibit CLW-5?
**Q** And, I believe, Ms. Walker, that this exhibit is identical in both the confidential version and the public version; is that correct?
**A** [WALKER] That's correct.
**Q** And direct us to the line and row numbers that need to be corrected.
**A** [WALKER] If you will go down to the row that starts with –

**MR. GUILD**: Counsel, could you just hold on a moment until I catch up?

**MR. WILLOUGHBY**: We'll stand by, and just let me know when you're ready.

**MR. GUILD**: CLW-5?

**MR. WILLOUGHBY**: CLW-5.

**MR. GUILD**: Thank you.

**MR. WILLOUGHBY**: You there?

**MR. GUILD**: I am, thank you.

**WITNESS**: If you will go down to the row – it's about halfway down – that starts with CO No. 20, and it says "Healthcare Act," and if you go across that row to the line that goes perpendicular down the line, or down the page, if you go to the right side of that line and follow over to the column headed with "G" it currently has a number of "207." That number needs to be replaced with a "962."

**BY MR. WILLOUGHBY:**

**Q** So in the column designated "G," entitled "Firm with Fixed Adjustment B," "207" should be deleted and "962" inserted?

**A** [WALKER] That's correct.

**Q** And what is the next change?

**A** If you stay on that same line, if you were to go over to Column K entitled "Time & Materials," there is nothing in that column, and if you could insert "1220." That's "1220."

**Q** Are there other corrections to be made?

**A** Yes. If you would go down four lines down below that, I think. It's the row that starts with CO No. 21, "ITAAC," and again, if you go to the right of the bold line and you go over to the column that is headed with "G" with the title "Firm with Fixed Adjustment B," if you would remove the number "28" and replace it with the number "185." And then going over to Column K with the heading of "Time & Materials," replace the number "31" with the number "188."

**Q** Thank you, Ms. Walker. Are there any other corrections to be made?

**A** [WALKER] No. But I would note that any subtotals, as well as totals, that follow those corrections are all accurate. There's no effect on any other subtotals or summary amounts on that spreadsheet.

**Q** So when we look at the totals that have been included in CLW-5, those totals are accurate?

**A** [WALKER] That's correct.

**Q** Any other corrections to be made?

**A** [WALKER] That's it.

**MR. WILLOUGHBY**: I just hit the wrong button, Madam Chair. Didn't mean to bring up one of Mr. Byrne's modules that he spoke of, but I'll let somebody else figure out how to cut it off.

**MR. ZEIGLER**: [Indicating.]

**MR. WILLOUGHBY**: Good.

I would move the introduction of Ms. Walker's seven exhibits. The confidential version, Madam Chair, we would move the introduction of the confidential version of the exhibits under seal in this hearing. I think the Commission has an order that addresses that issue.

**CHAIRMAN HALL**: All right. Ms. Walker's CLW-1 through -7 will be entered into the record as Hearing Exhibit No. 10, and the confidential under seal. We have the confidential version already under seal, so, very good.

[WHEREUPON, Hearing Exhibit No. 10 was marked and received in evidence.]

**MR. WILLOUGHBY**: Thank you, very much, Madam Chair.

**BY MR. WILLOUGHBY**:

**Q** Ms. Walker, have you prepared a summary of your testimony?

**A** [WALKER] I have.

**Q** Please deliver that at this time.

**A** [WALKER] Can you all hear me okay?

**CHAIRMAN HALL**: If you could pull that microphone just a little bit closer, please.

**WITNESS WALKER**: [Indicating.] Good afternoon, Chairman Hall and members of the Commission. The purpose of my testimony is to present the accounting, budgeting, and forecasting information related to the updates and cost schedules proposed in this proceeding.

As part of my testimony, I sponsor Exhibit CLW-1, which is an updated schedule of capital costs for the construction of the units. If approved, this schedule would become the approved capital cost schedule for the units under the Base Load Review Act. I also am sponsoring Exhibit CLW-

2, which compares the updated capital cost schedule to the schedules approved in the initial BLRA Order and subsequent proceedings. Exhibit CLW-3 summarizes the changes in the forecasted costs approved in Order No. 2012-884, and sets forth the updated escalation indices. These three exhibits are identical to the financial exhibits attached to the Petition in this docket.

SCE&G has identified approximately $698 million in additional capital costs for the project, which increase the capital costs for the units from approximately $4.5 billion in 2007 dollars, to $5.2 billion. The effect of these modifications and updates on the nine BLRA cost categories is reflected in Exhibits CLW-4 and CLW-5. These modifications and updates, along with changes in escalation rates and AFUDC, increase the gross construction costs from approximately $5.8 billion to $6.8 billion in current dollars.

As a result of the delay in the substantial completion dates of the Units 2 and 3, Westinghouse and CB&I revised its forecast of the estimated-at-completion, or EAC, costs to reflect the additional labor and related costs it asserts are necessary to maintain the updated construction schedule. The forecast also reflects reduced productivity and increased staffing ratios for the project, and increased time-and-material costs.

SCE&G asserts that Westinghouse and CB&I is contractually responsible for these issues. However, Westinghouse and CB&I contend that this increased cost is recoverable under the EPC contract and that, if properly invoiced amounts are not paid, it has the right to cease work on the project. In order to protect SCE&G's position without further delay in construction of the units, the company will pay 90 percent of the properly invoiced but disputed amounts, reserving its right to dispute the increased costs. Because of the delay experienced in the project to date, SCE&G is confident that it will recover from Westinghouse/CB&I the full amount of liquidated damages payable under the EPC contract, which totals approximately $86 million.

The capital cost schedule also includes the additional costs related to the design finalization of the project and 10 negotiated change orders and related matters that are necessary to address new and updated scopes of work. Finally, the schedules reflect cost savings resulting in the reallocation of switchyard costs.

The delay also will require SCE&G to maintain its new nuclear deployment, or NND, team for a longer period of time and to extend insurance coverage, resulting in additional owner's costs. Further, SCE&G will be required to provide software and other information technology resources, project facilities, and technical, administrative, and other support for longer periods of time.

Owner's cost also has been updated to reflect the addition of approximately 64 employees to the NND staff and the revised estimate of fee that SCE&G must pay for the Nuclear Regulatory Commission's inspection and oversight of the project. In addition, SCE&G has identified additional IT resources, increased facilities costs, and other costs not related to the delay, that are necessary costs of the project.

In my professional opinion and based upon my training, experience, and analysis, these modifications in updates are based upon reasonable and prudent forecasts and support updating the capital cost schedule under the provisions of the BLRA. The company, therefore, requests that the Commission approve the updated milestones as set forth in Mr. Byrne's testimony and his Exhibit SAB-2, and the modified and updated capital cost schedule in my Exhibit CLW-1 as the approved schedule of the capital costs for the completion of the units, subject to the adjustment for escalation and net of the AFUDC as provided for in the Order 2009-104(A).

This concludes my summary.

**MR. WILLOUGHBY**: Thank you, very much, Ms. Walker.

[PURSUANT TO PREVIOUS INSTRUCTION, THE PREFILED DIRECT TESTIMONY {W/CORRECTION} OF CARLETTE L. WALKER FOLLOWS AT PGS 602-638]

Please note: The change(s)/correction(s) noted herein reflect testimony given during the hearing in this matter.

**DIRECT TESTIMONY OF**

**CARLETTE L. WALKER**

**ON BEHALF OF**

**SOUTH CAROLINA ELECTRIC & GAS COMPANY**

**DOCKET NO. 2015-103-E**

Q. **PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.**

A. My name is Carlette L. Walker. My business address is Highway 215 & Bradham Boulevard, Jenkinsville, South Carolina.

Q. **BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

A. I am employed by SCANA Services, Inc. as Vice President for Nuclear Finance Administration. I am testifying on behalf of South Carolina Electric & Gas Company ("SCE&G" or the "Company").

Q. **DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.**

A. I am a 1981 graduate, cum laude, of the University of South Carolina with a Bachelor of Science Degree in Accounting. Following graduation, I worked for two years in public accounting and became licensed as a Certified Public Accountant in the State of South Carolina. In 1983, I joined SCE&G's Internal Audit Department. After four years in Internal Audit, I accepted an accounting supervisory position with South Carolina Pipeline Corporation ("SCPC"). In 1994, I was promoted to Manager of SCPC's accounting department, and in 1997, I was promoted to the position of Controller for that company. In 1998, I accepted the position of SCE&G's Assistant Controller - Electric Generation, and in 1999 I was promoted to Assistant Controller - SCE&G. Effective in 2002, my responsibilities as Assistant Controller were increased to include all SCANA regulated subsidiaries. In 2006, I was promoted to Corporate Compliance and Ethics and Audit Officer. In 2009, I assumed my current position as Vice President for Nuclear Finance Administration. I am currently a member of the American Institute of Certified Public Accountants and the South Carolina Association of Certified Public Accountants.

**Q. HAVE YOU EVER TESTIFIED BEFORE THIS COMMISSION IN THE PAST?**

A. Yes. I have testified before the Public Service Commission of South Carolina (the "Commission") in several past proceedings.

**Q. HAVE YOU TESTIFIED BEFORE THE COMMISSION IN PREVIOUS PROCEEDINGS FILED BY THE COMPANY UNDER THE BASE LOAD REVIEW ACT?**

A. Yes. I testified in Docket No. 2009-293-E, Docket No. 2010-376-E, and Docket No. 2012-203-E filed by the Company under the Base Load Review Act ("BLRA"). I respectfully ask that the Commission take judicial notice of its own files in those three previous dockets and receive as evidence in this case my prefiled testimony and exhibits as such testimony and exhibits were accepted into the evidence of record in each of these dockets.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

A. The purpose of my testimony is to present the accounting, budgeting and forecasting information related to the updates in cost schedules proposed in this proceeding. As part of my testimony, I sponsor the following exhibits:

- Exhibit No. __ (CLW-1), which is an updated schedule of capital cost for construction of V.C. Summer Nuclear Station Units 2 and 3 (the "Units"). This exhibit is identical to Exhibit 2 to the Petition. If approved by the Commission, this schedule would then become the approved capital cost schedule for the Units under the Base Load Review Act, taking the place of and superseding Exhibit F as approved in Order No. 2009-104(A), Order Exhibit No. 2 as approved in Order No. 2010-12, Order Exhibit No. 1 as approved in Order No. 2011-345, and Order Exhibit No. 1 as approved in Order No. 2012-884.
- Exhibit No. __ (CLW-2), which is identical to Exhibit 3 to the Petition and shows the relative changes to the capital cost schedule comparing the updated schedule of capital cost to the schedule approved in Order No. 2009-104(A), and updated by Order Nos. 2010-12, 2011-345, and 2012-884.
- Exhibit No. __ (CLW-3), which is identical to Exhibit No. 4 of the Petition and provides a summary reconciliation of the changes in forecasted cost shown in Exhibit No. __ (CLW-1) to those approved in Order No. 2012-

884, as well as a comparison of the escalation indices in effect under Order No. 2012-884 to those currently in effect.

- Exhibit No. __ (CLW-4), which summarizes the original capital cost approved in Order No. 2009-104(A), each of the subsequent capital cost schedule changes, and the change requested in this proceeding broken down according to the nine cost categories recognized in the Commission's BLRA orders.
- Exhibit No. __ (CLW-5), which shows the changes in forecasted cost broken down according to the nine cost categories recognized in the Commission's BLRA orders, as well as the changes in cost broken down into the categories and subcategories of the previously described cost adjustments.
- Exhibit No. __ (CLW-6), which reflects the increased cost for the New Nuclear Deployment ("NND") and non-NND cost centers that SCE&G anticipates will charge cost to the project and which identifies the delay, non-delay, and total cost impacts for each functional area.
- Exhibit No. __ (CLW-7), which reflects the increased cost for the NND and non-NND cost centers that SCE&G anticipates will charge cost to the project and which identifies the labor, non-labor, and total cost impacts for each functional area.

**Q. WHAT REQUEST IS THE COMPANY MAKING IN THIS DOCKET WITH REGARD TO THE CAPITAL COST SCHEDULE?**

A. SCE&G is requesting that the Commission approve Exhibit No. __ (CLW-1) as the updated and approved capital cost schedule for the construction of the Units going forward.

**Q. WHAT IS THE AUTHORITY FOR THIS REQUEST?**

A. As the South Carolina Supreme Court recognized in its opinion in *South Carolina Energy Users Comm. v. South Carolina Pub. Serv. Comm'n*, 388 S.C. 486, 697 S.E.2d 587 (2010) ("2010 BLRA Supreme Court Opinion"), changes to the approved capital cost schedule are authorized under S.C. Code Ann. § 58-33-270(E). Under that statute, modifications to the approved schedule of capital cost are appropriate so long as they are not the result of imprudence by the utility.

**Q. HAS THE COMPANY PREVIOUSLY REQUESTED THAT THE COMMISSION APPROVE CHANGES TO THE CAPITAL COST SCHEDULE OF THE PROJECT?**

A. Yes. The Company has requested approval to revise the capital cost schedule on three prior occasions, in Docket Nos. 2009-293-E, 2010-376-E, and 2012-203-E. In each instance, the Commission approved the requested change and determined that the adjustments were reasonable and prudent. Exhibit No. __ (CLW-4) summarizes the original capital cost approved in Order No. 2009-104(A), each of the three subsequent capital cost schedule changes, and the change requested in this proceeding broken down according to the nine cost categories recognized in the Commission's BLRA orders.

**Q. PLEASE DESCRIBE HOW YOU WILL DISCUSS THE ADJUSTMENTS TO THE CAPITAL COST SCHEDULE SCE&G SEEKS APPROVAL TO MAKE IN THIS PROCEEDING.**

A. My testimony will address each of the adjustments the Company proposes to make in this proceeding. As shown in Chart A, below, these changes, which revise, modify, and update the schedules that were approved in Order No. 2009-104(A) and updated in Order Nos. 2010-12, 2011-345, and 2012-884, reflect an increase to the Total Base Project Cost in 2007 dollars of approximately $698 million. After accounting for escalation rates updated as of July 2014 and Allowance for Funds Used During Construction ("AFUDC"), as provided for in Order No. 2009-104(A), the gross construction cost of the Units is projected to increase approximately $1.07 billion.

[CHART A IS ON THE FOLLOWING PAGE]

## Chart A

| ANALYSIS OF UPDATED PROJECT COST ($000) | | | |
|---|---|---|---|
| **Updated EPC Contract Cost** | | | |
| 1 | Delay and Other EAC Cost | | |
| 2 | Delay Cost | $ | 228,138 |
| 3 | Revised Productivity and Labor Ratios | $ | 154,779 |
| 4 | Additional Time and Materials Scope of Work | $ | 27,411 |
| 5 | **Total Delay and Other EAC Cost** | **$** | **410,328** |
| 6 | Liquidated Damages | $ | (85,525) |
| 7 | **Total Delay and Other EAC Cost (net of Liquidated Damages)** | **$** | **324,803** |
| 8 | Changes to the EAC Cost Due to Design Finalization | $ | 71,899 |
| 9 | Changes in EPC Cost Due to Change Orders | $ | 56,540 |
| 10 | Switchyard Cost Reallocation | $ | (107) |
| 11 | **Total EPC Cost** | **$** | **453,136** |
| **Owners Cost Revisions Associated with Delay** | | | |
| 12 | Owner's Labor Cost Revisions Associated with Delay | $ | 125,279 |
| 13 | Owner's Risk Insurance and Workers Compensation Insurance | $ | 30,101 |
| 14 | Additional Information Technology ("IT") Cost Associated with Delay | $ | 6,504 |
| 15 | Facilities Cost Increases Associated with Delay | $ | 6,071 |
| 16 | Other Owner's Cost Associated with Delay | $ | 46,351 |
| 17 | **Total Owner's Cost Associated with Delay** | **$** | **214,307** |
| **Owner's Cost Increases Not Associated with Delay** | | | |
| 18 | Additional NND Staff | $ | 7,535 |
| 19 | NRC Fees | $ | 7,094 |
| 20 | Other IT Cost | $ | 3,309 |
| 21 | Other Owner's Cost Not Associated with Delay | $ | 12,851 |
| 22 | **Total Owner's Cost Not Associated with Delay** | **$** | **30,789** |
| **Total Base Project Cost (2007 $)** | | **$** | **698,233** |
| **Change in Project Escalation** | | $ | 332,042 |
| **Change in AFUDC** | | $ | 42,075 |
| **Gross Construction Cost (Current $)** | | **$** | **1,072,350** |

Note: Totals may not add due to rounding

**Q. WHAT IS THE EFFECT OF THESE PROPOSED MODIFICATIONS AND UPDATES?**

A. These modifications and updates increase the approved Total Base Project Cost for the Units in 2007 dollars from $4.5 billion as approved in Order No. 2012-884 to $5.2 billion.[1] The effect of these modifications and updates on the nine cost categories recognized in the Commission's BLRA orders and the categories and subcategories of the previously described cost adjustments is reflected in Exhibit Nos. __ (CLW-4) and __ (CLW-5). As shown in Exhibit No. __ (CLW-1), these modifications and updates, along with changes in escalation rates and AFUDC, increase the gross construction cost of the Units from $5.8 billion, as projected in the financial schedules that were approved in Order No. 2012-884, to $6.8 billion in current dollars.

I would note that these projections do not include any unidentified or un-itemized Owner's contingency funds. The current projections also reflect current forecasts of escalation impacts which the Company will update quarterly as required by Order No. 2009-104(A).

**Q. WHY IS THE CAPITAL COST OF THE PROJECT AFFECTED BY CHANGES IN THE ESCALATION RATES?**

A. As discussed by Company witnesses in Docket No. 2008-196-E and subsequent update proceedings, the cost for the project is broken down into nine

[1] Unless otherwise specified, all cost figures in this testimony are stated in 2007 dollars and reflect SCE&G's share of the cost of the Units.

cost categories. Certain cost categories are escalated using the Handy-Whitman South Atlantic Region All Steam Generation Plant Index, All Steam & Nuclear Generation Plant Index, and Total Transmission Plant Index. The Commission recognized in Order No. 2009-104(A) that these inflation indices are well-recognized and commonly used in the utility industry to estimate the cost of constructing facilities and approved their use to determine the escalation amount relative to specific cost categories. In accordance with Order No. 2009-104(A), the Company updates these rates as required in its quarterly updates. Exhibit No. __ (CLW-3) reflects the most current Handy-Whitman inflation indices available at the time the Company filed its Petition in this proceeding. These indices are referenced in the July 2014 update.

## I. UPDATED EPC CONTRACT COST

**Q. PLEASE ITEMIZE THE UPDATE RELATED TO THE EPC CONTRACT.**

A. The Revised Cash Flow Forecast that Westinghouse Electric Company ("WEC") and Chicago Bridge and Iron ("CB&I," and together with WEC, "WEC/CB&I") provided to SCE&G indicates that the Estimated at Completion ("EAC") cost for the project has increased. The revisions to the EAC cost are in the EPC Contract categories of Target and Time and Materials cost. For these categories, WEC/CB&I invoices SCE&G for its actual cost plus contractually determined overhead and margins under the terms of the EPC Contract. However, the Company has recently informed WEC/CB&I that, under its interpretation of the EPC Contract, properly invoiced but disputed amounts are subject to partial payment of 90% of properly invoiced amounts until such disputes have been resolved.

**Q. WHAT IS DRIVING THE MODIFICATIONS AND UPDATES TO THE EPC CONTRACT COST?**

A. As Mr. Byrne and Mr. Jones discuss in more detail, WEC/CB&I informed SCE&G that the substantial completion dates of Units 2 and 3 ("Substantial Completion Dates") will be delayed by 27 and 25 months, respectively from the currently approved schedule. As a result of the delay, WEC/CB&I revised its forecast of the EAC cost to reflect the additional labor and related cost that it contends SCE&G is obligated to pay and that it asserts are necessary to maintain the updated construction schedule. In addition, the forecast reflects the cost associated with reduced productivity and increased staffing ratios for the project. WEC also projects that the EAC cost will increase due to the cost associated with additional Time and Materials scopes of work that WEC forecasts will be necessary to staff the start-up of the Units and to provide for the processing of License Amendment Requests ("LARs") to support construction. The cost forecast also includes increased labor and non-labor costs for installing additional commodities required by design finalization changes.

SCE&G also negotiated change orders to the EPC Contract to address new and updated scopes of work that have been identified as necessary for the project. Further, SCE&G's share of the EPC Contract cost has been decreased to reflect a cost savings resulting from the reallocation of Switchyard cost between SCE&G

and Santee Cooper and to reflect the recovery of approximately $86 million in liquidated damages payable under the EPC Contract as a result of the delay experienced in the project.

**Q. HAVE YOU DEVELOPED AN EXHIBIT DEMONSTRATING THE IMPACT OF EACH OF THESE ADJUSTMENTS?**

A. Yes. Exhibit No. __ (CLW-5) shows how the updated EPC Contract cost is allocated among the EPC Contract cost categories. These changes represent a total cost adjustment of $453.1 million, or approximately 65% of the total change in the capital cost schedule. See also Line 11 of Chart A.

**A. Delay and Other EAC Cost**

**Q. WHY WILL THE DELAY INCREASE THE FORECASTED AMOUNT OF LABOR AND RELATED COST NEEDED TO COMPLETE THE PROJECT?**

A. As discussed in more detail by Mr. Jones, WEC/CB&I projects that the delay in the construction schedule of the Units will require it to employ workers for longer than originally projected to accomplish previously-identified scopes of work. As a result, WEC/CB&I included in its cost forecast the additional labor cost associated with the extended employment of these workers.

**Q. DID WEC/CB&I REVISE THE COST FORECAST TO REFLECT DECREASED PRODUCTIVITY AND INCREASED STAFFING?**

A. Yes. Mr. Byrne and Mr. Jones explain that the productivity factors realized on the project to date are less favorable than those originally projected by

WEC/CB&I. In updating the EAC cost, WEC/CB&I took into account the decreased productivity experienced on the project and revised the forecasted productivity factors for the remainder of the project. These revised and less favorable productivity factors reflect that additional Direct Craft Labor will be required to accomplish previously-identified scopes of work and have the effect of increasing the project cost from those originally forecasted.

As part of the EAC cost forecast, WEC/CB&I also increased the ratio of Indirect Craft Labor to Direct Craft Labor and the ratio of Field Non-manual Labor to Direct Craft Labor for the project, and the cost associated with both categories of labor cost.

**Q. WHAT OTHER FACTORS AFFECT THE EAC COST FORECAST?**

A. WEC further estimates that additional Time and Materials scopes of work will be necessary to staff the start-up of the Units and to provide for the processing of LARs to support construction. Due to a number of design changes by WEC/CB&I, the number of LARs required during the construction process is greater than originally projected and WEC updated the EAC cost to reflect the additional cost resulting from these expanded scopes of work.

**Q. HOW DID WEC/CB&I DEVELOP THE UPDATED EAC COST FORECAST?**

A. The revised EAC cost forecast was developed by WEC/CB&I over a several month period in parallel with the development of the revised fully integrated project schedule. WEC/CB&I focused on identifying projected modifications and updates in cost and then adding to, or subtracting from, the base cost estimate.

As part of this analysis, WEC/CB&I prepared cost estimates for remaining Target Price and Time and Materials scopes of work in the categories of Direct Craft Labor, Indirect Craft Labor, Subcontracts, Field Non-manual Labor, and Other Distributable cost. In particular, the cost estimates examined how these scopes of work were impacted by various identified changes including design of the units, material quantities, staffing requirements, craft productivity, schedule changes, statutory, and regulatory requirements. These estimates also were based on the trends experienced over the first years of the project, with an emphasis placed on the last two years, when the work shifted from mostly site preparation to mostly vertical construction. WEC/CB&I then combined the identified cost impacts with the current project budget to create a new EAC cost, which was provided to SCE&G in the third quarter of 2014.

**Q. WHAT STEPS DID SCE&G TAKE TO VERIFY WHETHER THE UPDATED EAC COST PROVIDED BY WEC/CB&I IS REASONABLE?**

A. Upon receipt of the updated EAC cost from WEC/CB&I, SCE&G assembled a review team consisting of personnel from its Construction and Business and Finance Departments of NND to conduct a detailed review of the updated EAC cost forecast. Over a period of approximately two months, this team reviewed the information provided and conducted a detailed review of the revised forecasts. This effort focused on understanding the sources of the EAC cost and determining the reason for the cost impacts.

The method used to review the updated EAC cost forecast was a combination of requesting and reviewing back-up information from WEC/CB&I, interviewing WEC/CB&I team members, who provided oral responses to our cost-related interpretations, and having SCE&G subject matter experts review and analyze WEC/CB&I's forecasts. Where costs were based on commodity take-offs, WEC used the assumed direct and indirect labor factors as provided in the supporting documents. Where the estimate for certain cost elements were based on specific Field Non-manual staffing plans, SCE&G verified the cost estimate was supported by the staffing plan. SCE&G also convened a number of panels of experts in particular subject matter areas, such as testing or licensing, to review these aspects of the proposed cost. Through this intensive review process, SCE&G gathered information on the methodology used by WEC/CB&I to estimate the cost.

Through the discussions with the WEC/CB&I EAC team and based upon SCE&G's review and analysis of the information provided and representations made to the Company by WEC/CB&I, SCE&G approved for filing under the BLRA the EAC cost as a reasonable and prudent estimate of the Target Price and Time and Materials price for completion of the project. Notwithstanding this approval, the Company has not waived and has specifically reserved all of its rights under the EPC Contract and otherwise to assert that WEC/CB&I is responsible for the delay and associated cost increases and are liable to SCE&G for all resulting costs and damages.

**Q. ARE THERE CATEGORIES WITHIN THE UPDATED COST FOR WHICH SCE&G IS RESPONSIBLE TO PAY?**

A. Yes. The review team separated the updated cost forecast into the general categories of (1) Change Orders; (2) EAC Entitled Quantity Increases; (3) EAC Delay Cost; (4) EAC Performance Factors; and (5) WEC Other, consisting of Time and Material and start-up cost. Of these, the review team concluded that the Company was only responsible for those cost increases resulting from Change Orders and Entitled Quantity Increases. The review team further concluded that SCE&G should dispute WEC/CB&I's contention that the Company is responsible for the cost increases resulting from the other categories.

**Q. WHY DOES SCE&G DISPUTE THE INCREASED COST CATEGORIES RELATED TO DELAY COST, PERFORMANCE FACTORS, AND WEC OTHER?**

A. As further discussed by Mr. Byrne and Mr. Jones, the cost increases in these categories are primarily attributable to the delay caused by the inability of the module fabrication facility in Lake Charles, Louisiana, to produce submodules for the project in a timely fashion. WEC/CB&I also has not met the overall productivity factors on which its original cost estimates were based and has increased its labor productivity factors resulting in increased Direct Craft Labor cost for the Project. Design changes by WEC also have increased the anticipated number of LARs required during the construction process, and WEC projects that additional licensing support will be necessary to process these LARs. Finally, WEC has proposed to increase the ratio of Indirect Craft Labor to Direct Craft Labor and the ratio of Field Non-manual Labor to Direct Craft Labor. SCE&G asserts that WEC/CB&I is contractually responsible for these issues and the resulting increases in the Delay and Other EAC cost. WEC/CB&I has not accepted responsibility for any part of the Company's claim and, as further discussed by Mr. Byrne, the parties are in negotiations concerning the obligations to pay for this increased cost.

**Q. IF SCE&G DISPUTES THAT IT IS OBLIGATED TO PAY FOR THIS ADDITIONAL COST, WHY IS IT SEEKING COMMISSION APPROVAL OF THE UPDATED SCHEDULES AT THIS TIME?**

A. SCE&G contends that it is not required to pay for this increased cost and intends to dispute properly invoiced amounts that reflect additional cost resulting from the delay. However, WEC/CB&I has taken the position that this increased cost is recoverable under the EPC Contract and that it has the right to cease work and treat the project as if it had been suspended at SCE&G's request, if properly invoiced amounts are not paid by the Company. Under these circumstances, the project could be delayed indefinitely while SCE&G and WEC/CB&I attempted to resolve the dispute through negotiation or litigation. Further delays likely would substantially increase the final cost of the Units due to increased escalation cost and carrying cost on the amounts spent to date. Moreover, SCE&G will be eligible for a projected benefit of $2.2 billion in Federal Production Tax Credits if the Units are in commercial service by December 31, 2020. When earned, these tax credits will result in a positive benefit for our customers through reduced total rates. Further delaying the Units, and in particular Unit 3, could imperil SCE&G's ability to claim these credits.

SCE&G does not currently believe that refusing to make any payment on properly invoiced amounts is reasonable or prudent. WEC/CB&I contends that in such cases, the terms of the EPC Agreement require payment of 90% of a disputed invoice. In order to protect SCE&G's position without further delaying construction of the Units, the Company has advised WEC/CB&I that it will pay 90% of the properly invoiced disputed amounts, reserving its rights to contend that no such payments are in fact due and to pursue claims for disputed sums. This process will enable the project to continue while SCE&G and WEC/CB&I attempt to negotiate or otherwise reach a resolution of these issues.

**Q. IF SCE&G ULTIMATELY IS SUCCESSFUL IN DISPUTING THESE CHARGES, HOW WILL IT ACCOUNT FOR THE PAYMENTS MADE TO WEC/CB&I?**

A. Customers will receive the full benefit of any resolution of these disputed amounts. The EPC Contract provides that SCE&G has the right to recoup any payments made on disputed amounts if the dispute is resolved in SCE&G's favor. Any amounts paid to WEC/CB&I that are recovered by SCE&G through negotiation or litigation will reduce the capital cost of the project on a permanent basis. During the construction period, those amounts would reduce the financing cost to be charged to customers. As a result, any reduction will result in lower revised rates requested in future revised rates proceedings.

**Q. IS SCE&G PROPOSING ANY OTHER ADJUSTMENTS TO THE UPDATED COST RESULTING FROM THE DELAY?**

A. Yes. Article 13 of the approved EPC Contract specifies that WEC/CB&I will be responsible for liquidated damages if there is a delay in the Substantial Completion Date for either unit. Because of the delay experienced in the project to date, SCE&G is confident that it will recover from WEC/CB&I the full amount of liquidated damages payable under the EPC Contract, which totals approximately $86 million (see Line No. 6 of Chart A). The Company has netted this amount against the Delay and Other EAC cost for purposes of this filing.

**Q. BASED ON SCE&G'S PROPOSED ADJUSTMENTS, WHAT IS THE TOTAL INCREASE TO THE EPC COST CAUSED BY THE DELAY AND OTHER EAC COST IN THE PROJECT?**

A. After adjusting WEC/CB&I's updated forecast to reflect SCE&G's intention to pay only 90% of properly invoiced disputed amounts, the Company projects that the delay and other EAC cost will result in additional EAC cost of approximately $411 million (see Line No. 5 of Chart A). SCE&G has further adjusted this amount to reflect its anticipated recovery of the approximately $86 million in liquidated damages (see Line No. 6 of Chart A). The combined effect of these adjustments reflects increased EPC Contract cost of approximately $325 million (see Line No. 7 of Chart A), or 47% of the total change in the capital cost schedule.

**B. Changes to the EAC Cost Due to Design Finalization**

**Q. WHAT ARE THE MODIFICATIONS AND UPDATES RELATED TO CHANGES IN THE DESIGN FINALIZATION OF THE PROJECT?**

A. As previously mentioned, WEC/CB&I continues to finalize the issued-for construction design documents for the project and update its projections of the amount of commodities that must be installed to complete the project. Under the Fixed and Firm pricing components of the EPC Contract, WEC/CB&I is responsible for the cost of the additional commodities themselves. These commodities include concrete, structural steel, re-bar, electrical cable, pipe, and other construction materials identified in the design finalization process. However, SCE&G is responsible for the Actual Craft Wages and Non-Labor Cost associated with performing the work of installing these additional commodities. As well, this cost includes the impact of additional labor cost resulting from the implementation of design changes in the Containment Vessel.

**Q. HOW WILL THIS ADDITIONAL COST BE DETERMINED?**

A. As the detailed final design of the standard plant is completed, detailed quantity "take offs" are prepared for ordering materials and developing work package instructions. The new quantities are compared to original estimated quantities which were based on prior design information. Any differences between the original estimate and new quantities will result in cost impacts when compared to the original estimate. The Direct Craft Labor cost for installing the material is included in the EPC Contract Target price and is billed to SCE&G.

**Q. DID SCE&G DETERMINE WHETHER WEC/CB&I'S REVISED ESTIMATE WAS REASONABLE?**

A. Yes. The review team analyzed this increased cost as part of the process I previously described and approved for filing under the BLRA this EAC cost as a reasonable and prudent estimate of the Target price and Time and Materials price for completion of the project. However, the Company has not waived and has specifically reserved all of its rights under the EPC Contract and otherwise.

**Q. WHAT EFFECT WILL THE UPDATED PROJECTIONS RELATED TO DESIGN FINALIZATION HAVE ON THE EAC COST?**

A. As a result of the continuing efforts to finalize the design, SCE&G has determined that EAC cost will increase by approximately $72 million (see Line No. 8 of Chart A), or approximately 10% of the total change in the capital cost schedule.

### C. Changes in EPC Cost Due to Change Orders

**Q. PLEASE EXPLAIN THE COST MODIFICATIONS AND UPDATES RELATED TO THE CHANGE ORDERS.**

A. SCE&G has identified 10 change orders and related matters under the EPC Contract that will result in cost modifications. These change orders result in a total modification and update to the EPC Contract cost of $56.5 million (see Line No. 9 of Chart A), or approximately 8% of the total request. Mr. Jones testifies in greater detail as to the reasonableness and prudency of the cost reflected in these change orders.

### D. Switchyard Cost Re-Allocation

**Q. PLEASE EXPLAIN THE MODIFICATIONS AND UPDATES TO THE ALLOCATION OF SWITCHYARD COST.**

A. As I testified in Docket No. 2010-376-E, SCE&G originally projected that the Units' joint-owner, Santee Cooper, would pay a 45% share of the EPC Contract cost associated with the entire scope of work for the Units 2 and 3 Switchyard. Subsequently, the parties determined that some of the cost included in that scope of work benefited one party to the project more than the project in general related to how the Switchyard supports construction of new transmission lines for each company's transmission system. SCE&G and Santee Cooper agreed to conduct a comprehensive review of the Switchyard design and to modify and update the allocation amount in order to allocate these transmission assets based on how intensively each party would use these assets. In Order No. 2011-345, the Commission approved a projection of the impact of the revised allocation, including estimated de-escalation rates. These engineering studies were recently completed and SCE&G and Santee Cooper have determined the actual amount of cost to be allocated based upon their respective use of the facilities. As a result, SCE&G has modified and updated the initial projections to reflect the current cost projections and each party's actual use of the Switchyard by decreasing the allocation of Switchyard cost to SCE&G by $107,000 as reflected on Line 10 of

Chart A. This revision also assigns the cost to the proper BLRA category in which they were paid.

## II. OWNER'S COST REVISIONS ASSOCIATED WITH DELAY

**Q. PLEASE EXPLAIN ITEMS 12 THROUGH 16 SHOWN ON CHART A RELATED TO OWNER'S COST REVISIONS ASSOCIATED WITH DELAY.**

A. Line Nos. 12-16 on Chart A show the modifications and updates to Owner's cost forecasts as a result of the effect of the new WEC/CB&I revised Substantial Completion Dates. The Exhibit shows that the total amount of Owner's cost modifications and updates associated with the delay is $214.3 million (see Line No. 17 of Chart A), or approximately 31% of the total request.

**Q. AS A MATTER OF BACKGROUND, WHAT TYPES OF EXPENSES ARE INCLUDED IN OWNER'S COST?**

A. Owner's cost includes the cost SCE&G will incur related to overseeing the construction project; recruiting, hiring and training staff for the Units; quality assurance and quality control; IT cost; preparing written operating procedures for all aspects of Unit operations, maintenance, safety and security; accepting, testing and maintaining the systems and components of the Units as they are completed and turned over to SCE&G pending completion of each Unit as a whole; obtaining licenses and permits for the project; regulatory cost such as NRC fees; start-up testing of the Units as they are completed; and providing the materials and supplies needed for maintenance of plant systems up to the date of commercial operations. Owner's cost also includes a number of construction-related items such as workers' compensation insurance for all contractors and subcontractors, builder's risk insurance, and transportation risk insurance; payment of miscellaneous taxes including sales taxes; and certain preconstruction cost.

**Q. PLEASE EXPLAIN WHY SCE&G IS PROPOSING TO MODIFY AND UPDATE THE OWNER'S COST FORECASTS IN THIS PROCEEDING.**

A. SCE&G has determined that it will incur additional cost related to the delay. SCE&G also has continued to review, refine, modify, and update the Owner's cost projections. SCE&G has carefully done so based on operating experience with the project, and ongoing analyses of the personnel and facilities needed to safely and efficiently construct and operate the Units. As a result, SCE&G has modified and updated the projections of Owner's cost as shown in Exhibit No. __ (CLW-6) representing the increased delay and non-delay cost for the NND and non-NND cost centers organized by functional area that SCE&G anticipates will charge cost to the project. These modified and updated Owner's cost projections are also shown in Exhibit No. __ (CLW-7) reflecting the labor and non-labor cost increases for the NND and non-NND cost centers. These Exhibits reflect a cost-center by cost-center analysis of the effect of WEC/CB&I's revised Substantial Completion Dates for the Units and SCE&G's actual experience in managing this project since 2008.

**Q. HOW DID SCE&G PREPARE THE OWNER'S COST BUDGET?**

A. SCE&G developed the Owner's Cost forecast at a 100% level, inclusive of Santee Cooper's percentage to support the day-to-day management of the project, and then identified its share of Owner's Cost. The Company also identified the cost that is not shared with Santee Cooper in developing the budget reported for purposes of the BLRA. At the department level, SCE&G created budgets for all cost centers that provide support for the construction and future operation of the Units. These budgets were broken down by month for the current year and annually thereafter until the end of the project and were established at the resource code level, which is SCE&G's accounting code that identifies the nature of the cost.

Mr. Jones testifies to the process by which the NND staffing budgets have been updated since 2012 in order to develop the budgets presented in this proceeding. I support his conclusions and am sponsoring the revisions to the other aspects of Owner's cost which are set forth on the modified and updated budget as shown in Exhibit No. __ (CLW-6). These changes are based on the annual, cost-center by cost-center review of the budget for the project, which is described in my testimony in Docket Nos. 2010-376-E and 2012-203-E.

**Q. IN PREPARING THE CURRENT OWNER'S COST BUDGET, HOW DID YOU OBTAIN BUDGET INFORMATION FROM AREAS OTHER THAN NND?**

A. As indicated in prior testimony, SCE&G requires all cost centers outside of NND to assign time and cost directly to the project based on time sheets and invoices for actual work performed. These cost centers include such groups as SCANA Audit Services, Legal, Environmental, Risk Management and Insurance, Facilities Management, and multiple groups within current Nuclear Operations such as Unit 1 Health Physics that may assist on an as-needed basis in creating staffing plans and writing operating procedures for parts of Unit 2 and 3 operations.

All cost centers that anticipate providing direct support to the project must provide detailed budgets for their activities through June 2020 and update the budgets annually. These budgets are typically based on a review of the past amount of assistance provided by the outside group to NND adjusted to reflect any anomalies and to take into account an estimate of how needs for assistance are likely to evolve in the future. My group then carefully reviews these budgets against past actual experience and our understanding of the future needs of the project. We seek adjustments to them where we disagree with the assumptions or results. Bear in mind, these are budgets and we review what is charged to ensure that nothing is billed to the project except the cost of necessary assistance actually provided. However, we are also vigilant to ensure that these non-NND cost center cost forecasts are reasonable and necessary in all respects.

We are equally vigilant as to actual cost billed to the project. The NND teams review these charges each month to ensure that they are accurate, necessary and appropriate. Our joint-owner, Santee Cooper, has an equal interest in making sure that all charges are appropriate and reviews these charges independently on a monthly basis.

As to the budgets being presented here, I have reviewed them in detail and am very familiar with them through my role in the internal review and approval process and the financial administration of the project month to month. It is my conclusion that they reflect reasonable, necessary, and prudent project cost based upon the information currently available to SCE&G.

**Q. WHAT STEPS DOES THE COMPANY TAKE TO ENSURE THAT NO COST RELATED TO THE OPERATION OF UNIT 1 IS BILLED TO THE PROJECT?**

A. In some instances, Unit 1 employees who have specific expertise spend time on the project, and the Company records the associated labor cost as a direct cost related to the construction of Units 2 and 3. As well, some cost may be shared between the Units in order to increase efficiencies and economies of scale, with the cost being allocated to each Unit based upon their derived benefit from the expenses. In all other instances, SCE&G separately accounts for the cost to operate Unit 1 and ensures that this cost is not recorded as a cost of the project.

**Q. WHAT IS THE BACK-UP MATERIAL FOR THIS BUDGET?**

A. In the backup material for Exhibit Nos._ (CLW-6) and_ (CLW-7), the cost is broken down by summary resource codes for each of the 100 NND and non-NND cost centers that underlie the summary NND budget documents. For each of the entries in that budget, there is a separate set of schedules that breaks this summarized cost down month-by-month from project inception to date and year-by-year for the period of 2015 to 2020. Each cost center manager has developed a budget based on his or her professional assessment of the future needs of the project and experience. These budgets are supported by staffing and training plans, current corporate salary structures, outside services budgets, and other cost center specific budget documents as available. These detailed cost center budgets roll up and support the overall budget set forth here.

**Q. WHO CAN REVIEW THIS BACK-UP INFORMATION SUPPORTING THE CURRENT BUDGET?**

A. SCE&G is making the above-mentioned detailed cost center budgets and supporting documentation information available to the South Carolina Office of Regulatory Staff. Because of the commercially sensitive nature of much of this information, and because in some cases this information contains data about individual employees' salaries, the Company is asking parties to sign confidentiality agreements if they wish to inspect and review this data at the construction site.

**A. Owner's Labor Cost Revisions Associated with Delay**

**Q. WHAT IMPACT HAS THE DELAY HAD ON OWNER'S LABOR COST?**

A. In his testimony, Mr. Jones discusses the impact of the delay on the Owner's labor cost relating to the responsibilities of the NND team. These responsibilities include SCE&G's obligations to oversee construction, engineering, and quality assurance/quality control ("QA/QC") both on site and at suppliers' locations worldwide; train and license all personnel required for Unit operations; audit invoices from WEC/CB&I and other suppliers and resolve contractual and payment disputes with WEC/CB&I; and oversee and account for all commercial aspects of the project and operate and maintain the Units when in service. He also testifies to the reasonableness and prudency of these revised plans and the resulting adjustments to the cost forecasts for the project. These modified and updated plans and forecasts reflect that the delay will increase the Owner's labor cost by approximately $125.3 million (see Line No. 12 of Chart A), or approximately 18% of the total request in this proceeding. I am familiar with these plans and cost forecasts and support his conclusion that this is a prudent and reasonable cost of the project.

**B. Owner's Risk Insurance and Workers' Compensation Insurance**

**Q. PLEASE EXPLAIN THE COST DRIVERS FOR THE INCREASE IN OWNER'S RISK INSURANCE AND WORKERS' COMPENSATION INSURANCE COST.**

A. All of the Project insurance programs are required in Phase II of the EPC. These insurance programs include Builder's Risk insurance, an owner controlled insurance program ("OCIP"), and Cargo insurance. The existing insurance programs were negotiated and bound utilizing the original construction timeline, including the 18-month contingency period allowed under the BLRA. All of the project insurance policies will expire prior to the revised project completion date.

This will require the Owner to either seek an extension of the current policies, pending current insurer agreement, or return to the insurance marketplace for search and procurement of new insurance coverage. The Owner is having on-going discussions with all of the project insurers about extending the current policy terms and while insurers continue to be receptive, they are unable to commit to an extension at this time. Furthermore, the delay results in additional exposure to Builder's Risk damage claims as well as worker injuries and the workers' compensation claims to provide medical care for these workers. SCE&G forecasts that extending the project will result in an increase in Owner's cost of approximately $30.1 million (see Line No. 13 of Chart A), or approximately 4.3% of the total change in the capital cost schedule.

**Q. WHAT STEPS HAS SCE&G TAKEN TO MINIMIZE THESE COST INCREASES?**

A. The Owner has worked diligently with WEC/CB&I and the project insurers to manage the insurance programs as efficiently as possible to maximize value and minimize risk for the project stakeholders. Since the insurance program inception, the project has never been rated below "Excellent" by the insurer Loss Control team. The project continues to strive to provide a safe work environment for the workers and this increased focus on worker safety has resulted in fewer than projected workers' compensation claims. This better than projected claim experience to date has resulted in a reduction in the program collateral requirements at each successive year's renewal. If this positive claims experience continues, SCE&G believes this will result in an extension of the existing policy.

### C. Additional IT Cost Associated with Delay

**Q. WHAT ADDITIONAL INFORMATION TECHNOLOGY COST IS ASSOCIATED WITH THE DELAY?**

A. SCE&G forecasts that extending the schedule of the project will increase the Owner's cost associated with providing IT infrastructure, including licenses, hardware, and software cost. The effect of this adjustment increases the Owner's cost by approximately $6.5 million (see Line No. 14 of Chart A), or approximately 1% of the total request.

**Q. WHAT IS THE BASIS FOR THIS ADDITIONAL COST?**

A. As further discussed by Mr. Jones, SCE&G is obligated to supply certain software and other IT resources required to support operational readiness and the work of the NND team during the construction. Extending the project schedule will increase the cost of IT support for the project because software licenses and maintenance fees, equipment maintenance cost, and other IT support cost must be paid for longer periods of time.

**Q. WHAT PROCESS DID THE COMPANY USE TO FORECAST THIS ADDITIONAL COST?**

A. SCE&G forecasted the additional IT cost resulting from the delay by identifying the difference in cost that will occur between the previously approved commercial operation dates and the newly proposed commercial operation dates.

Included in this additional cost includes software and equipment maintenance, software upgrades and IT support cost. Software and equipment maintenance cost classified as IT cost resulting from the delay were forecasted based on an extension of the yearly maintenance contracts associated with those pieces of software/equipment. Software upgrades classified as IT cost resulting from the delay were forecasted based on known required yearly updates to software that will be needed during that time frame. IT support cost classified as IT cost resulting from the delay were forecasted based on the IT level of support/oversight of software programs needed during that time frame.

### D. Facilities Cost Increases Associated with Delay

**Q. PLEASE EXPLAIN HOW THE DELAY HAS AFFECTED OWNER'S COST RELATED TO FACILITIES.**

A. Pursuant to the terms of the approved EPC Contract, SCE&G is responsible for the warehouse and storage space for materials and equipment necessary to operate the Units. The Company also is required to pay for the office space and related support facilities for its NND team personnel while they are on site. Because of the delay in the project schedule, it will be necessary for the construction and operational readiness teams to perform certain scopes of work simultaneously. Therefore, additional facilities will be required to provide the teams with sufficient space to complete their respective scopes of work. In addition, the maintenance, upkeep, and other costs of office space and related support facilities will have to be borne by the project for a longer period of time.

Due to the delay in the Substantial Completion Dates, SCE&G forecasts that additional facilities and facilities cost will increase Owner's cost by $6.1 million (see Line No. 15 of Chart A), or approximately 1% of the total change in the capital cost schedule.

**E. Other Owner's Cost Associated with Delay**

**Q. WHAT OTHER OWNER'S COST WILL BE AFFECTED BY THE DELAY?**

A. Extending the duration of the project also will increase Owner's cost across a broad range of cost centers related to technical, administrative, and other support for the project as well as increasing non-labor cost associated with NND cost centers. For example, the delay will increase the labor cost for Construction Oversight Contractors; the amount of sales tax paid to the South Carolina Department of Revenue; and fees paid to the Institute of Nuclear Power Operations and the AP 1000 Users Group ("APOG"). These cost centers also include SCANA and SCE&G's direct costs in supporting the project for such services as Licensing, Construction, Engineering, and Maintenance. The basis for this adjustment and process used by the Company to develop and determine the increased cost are the same as I have previously described.

**Q. WHAT IS THE EFFECT OF THESE INCREASES?**

A. The cumulative effect of these increases is forecasted to total $46.4 million (see Line No. 16 of Chart A), or approximately 7% of the total change in the capital cost schedule.

## III. OWNER'S COST REVISIONS NOT ASSOCIATED WITH DELAY

### A. Additional NND Staff

**Q. PLEASE EXPLAIN LINE NO. 18 OF CHART A RELATED TO THE ADDITION OF NND STAFF.**

A. Line No. 18 of Chart A reflects the addition of approximately 64 employees to the Company's NND staff. Mr. Jones testifies to the reasonableness and prudency of this change, which will increase Owner's cost by approximately $7.5 million, or approximately 1% of the total request in this proceeding. I am familiar with this change from an accounting and financial standpoint and support as reasonable and prudent the revised forecast to reflect these additional staffing needs.

### B. NRC Fees

**Q. HAS THERE BEEN ANY MODIFICATION OR UPDATE TO THE ESTIMATED NRC FEES ASSOCIATED WITH THE PROJECT?**

A. Yes. The NRC has revised its estimate of the fees that SCE&G must pay for NRC inspection and oversight of the project. The new estimate includes additional expenses for pre-inspection preparation and off-site work following up on inspections.

**Q. WHAT IS THE BASIS FOR THIS REVISED ESTIMATE OF NRC FEES?**

A. The NRC is statutorily required to recover most of its budget authority through fees assessed to applicants for an NRC license and to holders of NRC licenses. Among other things, these fees are assessed to recover the full cost of reviewing applications and amendments for new licenses and approvals, preapplication consultations and reviews, and project managers and resident inspectors assigned to a specific plant or facility.

Initially, the NRC provided an estimate of its fees for the project, which was approved by the Commission in Docket No. 2008-196-E. Recently, however, the NRC informed SCE&G that the original estimate of fees only included its cost for NRC personnel located on the project site and did not include the cost associated with its staff members tasked with overseeing the project but who are located off-site. As a result, the new NRC fee estimate will increase Owner's cost for the project by $7.1 million (see Line No. 19 of Chart A), or approximately 1% of the total request in this proceeding.

### C. Other IT Cost

**Q. PLEASE EXPLAIN HOW THE COST CATEGORY FOR OTHER "IT COST" AFFECTS THE OWNER'S COST FORECAST.**

A. SCE&G has identified additional software and other IT resources, not related to the delay, that are a necessary cost of the project. Included in these IT resources are additional cyber security resources for NND project personnel, fatigue and stress modeling software to diagnose and monitor the condition of equipment in the Units, and additional software to capture and monitor plant operating data.

**Q. WHAT STEPS HAS SCE&G TAKEN TO MITIGATE OR AVOID ADDITIONAL IT COST?**

A. SCE&G has exercised care and diligence to mitigate or avoid additional cost by negotiating long term agreements (3-5 years) to avoid the normal annual increases for many fixed maintenance fee contracts. Also, the Company is using the same software as Unit 1 where Unit 1 has a site license, ensuring that the cost is allocated to the appropriate cost center and that there is no subsidization of cost between Unit 1 operations and the project. This not only decreases license fees, but also allows us to leverage existing in-house knowledge and experience for the project. Similarly, SCE&G is standardizing software across all three units to minimize maintenance and implementation cost, wherever possible. The Company further established a uniform Request for Proposal and Request for Quote process for software purchases for all three units. This enables SCE&G to consider the requirements of all three units in making any procurement and obtaining the best possible price. When doing so creates cost advantages, SCE&G also is developing in-house software. Finally, SCE&G is delaying the hiring or assignment of people to ensure alignment with software implementations.

In spite of these efforts, SCE&G has determined through the same budgeting process I previously described that additional IT cost is prudent and necessary. The Company forecasts that the additional IT cost will add $3.3 million to Owner's cost (see Line No. 20 of Chart A), or approximately 0.5% of the total change in the capital cost schedule.

**D. Other Owner's Cost Not Associated with Delay**

**Q. PLEASE EXPLAIN THE COST INCLUDED IN THE CATEGORY "OTHER OWNER'S COST NOT ASSOCIATED WITH DELAY"?**

A. SCE&G's forecast of Owner's cost has also increased in other areas including increased facilities cost; the cost of additional contractors for oversight of construction and component fabrication; increased fees for participation in APOG; increased cost for updating Probabilistic Risk Assessments related to the Units; the cost of maintenance equipment needed to support the project during systems testing and when in operation; and other similar types of costs. As part of the process of developing the Owner's cost forecast, SCE&G has determined that the amount of other Owner's cost not associated with the delay is $12.9 million (see Line No. 21 of Chart A), or approximately 2% of the total request.

## CONCLUSION

**Q. ARE THE UPDATES REQUESTED IN THIS PROCEEDING REASONABLE AND PRUDENT?**

A. Yes they are. I have been involved in a number of proceedings before the Commission where I have provided expert testimony on budgetary and forecasting matters. In my professional opinion, the modifications and updates to capital costs requested in this proceeding are the result of the normal and expected evolution of project cost forecasts and the current status of the construction schedule. Based upon my training, experience, and analysis, these modifications and updates, are based upon reasonable and prudent forecasts and support updating the capital cost schedule under the provisions of the BLRA.

**Q. WHAT IS SCE&G REQUESTING OF THE COMMISSION IN THIS PROCEEDING?**

A. The Company is requesting that the Commission approve, pursuant to S.C. Code Ann. § 58-33-270(E), (1) the updated milestones as set forth in Mr. Byrne's testimony and Exhibit No. __ (SAB-2) and (2) the modified and updated capital cost schedule in Exhibit No. __ (CLW-1) as the approved schedule of capital cost for completion of the Units, subject to adjustment for escalation and net of AFUDC as provided for in Order No. 2009-104(A).

**Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

A. Yes, it does.

**MR. WILLOUGHBY**: The witnesses are available for cross-examination and questions from the Commissioners.

**CHAIRMAN HALL**: All right. Thank you.

**MR. GUILD**: Good afternoon –

**CHAIRMAN HALL**: Mr. Guild, we're going to take a short break. Five minutes, please.

[WHEREUPON, a recess was taken from 3:20 to 3:35 p.m.]

**CHAIRMAN HALL**: Thank you. Be seated.

All right. Mr. Guild, your witnesses, but remember we need to get finished today.

[Laughter]

**MR. GUILD**: Thank you, Madam Chair.

**CROSS EXAMINATION**

**BY MR. GUILD**:

**Q** Good afternoon again, lady, gentlemen. Dr. Lynch, for you: The company's proposed to the Commission that they approve a 38-month-and-18-day delay in the substantial completion of Unit 2. In the meantime, between the dates initially proposed for commercial operation and that period of 38 months that is now the target, how will the company generate electricity? What will be the generation mix, in the meantime?

**A** [LYNCH] Well, I suspect you're asking about capacity and

how we meet our reserve margin?
**Q** No, sir. I'm just really asking about dispatch, how you'll produce electricity, and I guess the real point is how much more will that electricity cost than the electricity that would've been generated if the units were in service at the dates originally promised?
**A** [LYNCH] Well, we'll generate with coal and natural gas, you know, and purchases also, based on natural gas, as well.
**Q** All right.
**A** [LYNCH] But as far as incremental cost, I don't know.
**Q** Do you know what the total cost is, in terms of increased cost to consumers of delay in in-service dates of the units that are now on the table?
**A** [LYNCH] No.
**Q** There is an increased cost, though, isn't there?
**A** [LYNCH] I would think yes.
**Q** All right. And that cost is associated with a higher fuel cost. You're going to burn coal, you have to buy the coal. As others have testified, once you incur the capital cost of the nuclear plant, the comparative operating costs, maintenance costs, fuel costs are lower.
**A** [LYNCH] Nuclear fuel would be cheaper than coal or gas.
**Q** So whatever that increment in additional costs that's

going to borne by ratepayers, you haven't calculated that and can't tell us what that is.

**A** [LYNCH] Not today, sitting here, no.

**Q** Now, there's a total cost of delay that's been put on the table, from the delay of in-service for these units. What is the cost of delay on a daily basis? For every additional day of delay, what's the cost of that delay, Dr. Lynch?

**A** [LYNCH] I don't know.

**Q** Could you then tell a residential customer what their daily share of the cost of delay is of the dates for putting these plants in service?

**A** [LYNCH] I don't know what the cost — this delay cost is.

**Q** All right. Can you tell us what the average cost per residential customer of the total increased capital cost of the plant are, as compared to the original promised costs approved in the 2009 Order? What's my average — what's my share of the increased cost of these units, Dr. Lynch?

**A** [LYNCH] The increased cost between what? I'm sorry.

**Q** The costs of these units that I was going to bear, under the original capital costs of the project, as compared to the costs in addition that I'm going to bear with the revised total capital cost estimates. What's the difference?

**A** [LYNCH] I remember in 2012 that we had $5.7 billion as the construction cost, and now it's $6.8 billion. That part, I know.

**Q** All right. And what does that boil down to as a cost per residential customer, and what's the difference?

**A** [LYNCH] See, I don't have that broken out.

**Q** Moody's says it's approximately $8,300 a customer. Do you dispute the number?

**A** [LYNCH] That sounds — yeah, I wouldn't accept that number.

**Q** What is it, then?

**A** [LYNCH] Well, since I haven't calculated that number, I don't know.

**Q** Did you include the value of the production tax credits in your analysis of the comparative costs of one strategy versus another one?

**A** [LYNCH] Yes.

**Q** And what value did you include for those production tax credits?

**A** [LYNCH] About $2.2 billion in cash.

**Q** So you assume that we would realize — "we," the company and us ratepayers, stockholders — we would appreciate the full value of all of the production tax credits for both units meeting the requisite in-service date?

**A** [LYNCH] Yes.

**Q** What effect would there be of eliminating the production tax credits from one of those units on your analysis?
**A** [LYNCH] In my summary chart — that's Appendix 3 in the study — you would subtract and, again, take at least half of the production tax credits. You subtract $46 million from every box.
**Q** And just give us a rough general sense about what the comparative impact would be of removing that one unit's production tax credit.
**A** [LYNCH] Well, in all 27 scenarios, before I take it out, nuclear showed an advantage; stopping the construction was costly to our customers.
**Q** Uh-huh.
**A** [LYNCH] If you subtract the $46 million from all the boxes, then three of them turn the other way and would become negative.
**Q** All right.
**A** [LYNCH] And those are the scenarios in the base, high load, and low load, where gas prices are base gas and zero dollars per ton of $CO_2$.
**Q** All right. Let's take another scenario. What happens if we lose both units' production tax credits. If you get neither Unit 1 — I mean, Unit 2 nor Unit 3 in service in time to meet the statutory or legal requirements to be eligible for the tax credits, what

effect does that have on your comparative scenarios?
**A** [LYNCH] You would subtract twice, and it would be $91 million.
**Q** And how many scenarios would turn negative for the plant, under that circumstance?
**A** [LYNCH] The same: Three. The same three.
**Q** Same three. All right. Now, the analysis that you performed uses a 40-year planning horizon, is that your testimony?
**A** [LYNCH] That's correct.
**Q** Do you expect, I guess, based on the other testimony, that the plant could operate for as much as 60 years? I think we heard that discussion. Are you aware of that?
**A** [LYNCH] Hopefully, 80. But, yes.
**Q** Oh, 80. That's new. All right. But it's a 40-year life, potentially extendable, as I understand from the testimony, for another 20 years?
**A** [LYNCH] Yes.
**Q** But you studied the 40-year horizon, correct?
**A** [LYNCH] Correct.
**Q** Okay. Now, some of us — I include myself, and I hesitate to impose this on you, but some of us old graying-in-the-jowls, shall we say — may not be around as SCE&G customers for that entire 40-year project life. Would you accept that as sort of a gerontological

principle?

**A** [LYNCH] Yes.

**Q** All right. In which case, I'm not going to be enjoying the electricity from that unit at least for some fraction of its projected lifespan, that 40-year period of time, right?

**A** [LYNCH] Right.

**Q** Now, I'm 66 years old today, and I'd love to think that wonder drugs will bear fruit between now and then, but that makes me 106 by the time the full benefits of this project have been inured to someone at my residential electric address?

**A** [LYNCH] Is a happy birthday in order?

**Q** I hope so.

[Laughter]

And who knows? We may not even have electricity, or too cheap to meter, or something else by that year, you know, 40 years from now. But if I'm only an SCE&G customer for another, let's just say, 10 years, how much benefit am I going to get out of my ownership investment in this rock, Dr. Lynch?

**A** [LYNCH] Well, you get a benefit out of the system. So the company has a fleet of power plants, that it serves its service territory with, of various vintages. So you're benefiting from plants that are already on the system that have been depreciated over the years, where other customers before you paid most of the cost, and now you're paying for the depreciated value. So as part of the system, you pay sort of a system cost, an appropriate cost for that.

**Q** That makes me feel a little better, but I must say it doesn't quite cure all those sort of anxieties. Wouldn't you acknowledge that the Base Load Review Act that allows you to charge me financing costs today for a project whose benefits I will certainly not enjoy beyond my life span, that that represents an intergenerational subsidy, inherently? I am financing benefits for someone who will come long after I'm dead and gone, as an SCE&G customer?

**A** [LYNCH] Well, the principle of adding construction-work-in-progress into the rate base has been part of the regulatory business for 30, 40 years, I thought. So the Base Load Review just automates that process; they don't have to have a rate case every year.

**Q** Okay.

**A** [LYNCH] So I don't think it changes the regulation in the State.

**Q** So if we have intergenerational equity issues from the Base Load Act, we've had them for a long time, as long as we've had construction-work-in-progress; that's your position?

**A** [LYNCH] Well, the issues you're talking about — today, people enjoy the benefit of plants that have been built many years ago and are very much depreciated. For example, Unit 1 at Summer is a very effective, efficient unit, very cost-effective.

**Q** I paid for that one, too, Dr. Lynch. I mean, I was around at —

**A** [LYNCH] Well, you were —

**Q** — the groundbreaking, right?

**A** [LYNCH] — here. Right.

**Q** So there ya' go. But some new guy coming along, your point is, they didn't pay for that and they're getting the depreciated value of its output, right?

**A** [LYNCH] Right. And all the company can do is provide a fleet generating electricity as cheaply as possible for the existing customers, and for the future customers, as well.

**Q** Right. But back to my question that I started with: How long do I have to continue to be an SCE&G electric customer for me to essentially pass that payback period, as if I were, you know, investing in a new solar panel or something like that? What's my payback period for my piece of V.C. Summer Units 2 and 3, Dr. Lynch, under your analysis?

**A** [LYNCH] Well, I suppose one payback is because we're building these units, we're able to retire Canadys Units 1, 2, and 3, so there's coal plants we don't have to be worried about burning the coal. That's a benefit there.

**Q** That's good. Thanks for that. But, no, your analysis was just looking at this plant versus –

**A** [LYNCH] Oh, my analysis.

**Q** Yes. Yeah, your analysis. That's what we're talking about here.

**A** [LYNCH] Oh.

**Q** So under your analysis, how much longer do I have to be an SCE&G customer for me to net a benefit from my investment in financing Units 2 and 3?

**A** [LYNCH] Well, no, under my analysis, if we stop construction of the nuclear plants and build gas instead, our customers will pay a lot more money for the electricity that we'd provide them.

**Q** That's not my question.

**A** [LYNCH] And if you're one of the customers, then you would pay more.

**Q** I got that. I got your contention to that effect. I'm asking you, focusing solely on Units 2 and 3, with their now existing or proposed capital cost to complete, and my having to pay, you know, these average 2 to 3 percent a year rate increases – it's in the exhibit here what

the increases are going to be.
**A** [LYNCH] Yeah.
**Q** That's my investment, and I want to know, in terms of electricity from that plant, what's the breakeven point? How many more years of electric service do I have to get out of your company before I appreciate the net savings from the generation from that unit?
**A** [LYNCH] But you mentioned my study, and what my study says is that if we stop construction of the nuclear plants and build gas, your bill would go up. You would pay more for electricity.
**Q** I hear that. I'm not asking that question. I'm saying standing –
**A** [LYNCH] Oh.
**Q** – alone, if that were a solar panel and not two AP1000 nuclear plants, and I am investing in those two nuclear plants, how many years before I pay off my investment and start earning a net return on the electricity that's coming out of those plants? Can you tell me that?
**A** [LYNCH] I don't think you're investing in the plants. I'm having trouble understanding the question.
**Q** Well, I've –
**A** If you're asking me when will you see electricity coming out the plants, we're figuring June of 2019 for Unit 2.
**Q** Yeah.

**A** [LYNCH] So if that's the criteria you want –

**Q** I don't think we're communicating effectively. If I were buying a solar panel, and the solar panel, they say, "Well, it's going to cost you $20,000, Mr. Guild, to put that on your roof," I might go, "Well, I don't know." "But your kilowatt-hour consumption will be reduced by X and so your net metering bill impacts will be Y. If you run that solar panel for," and I think we've had this testimony from your company, four years, eight years, whatever period of time it is, "at that point you will have paid off and there will be a net return on that investment in terms of reduced power bills." And that's the judgment that consumers make all the time in choosing to go to some kind of alternative source of power, or putting insulation in your house, or buying a new HVAC system, or a new refrigerator. And I'm just asking the simple question: How long do I have to wait before I get a net return for my average individual investment in Units 2 and 3? Have you calculated that value?

**A** [WALKER] Can I add something here?

**Q** No, ma'am. I'd like to get this from Dr. Lynch, please.

**A** [LYNCH] Well, it sounds like – it's a little confusing, the question, to me. But it sounds like what you're interested in is some kind of payback.

**Q** Yes.
**A** [LYNCH] So if you invest in a solar panel, $20,000, so maybe a payback is 12, 15 years — I'm not sure what it is.
**Q** Yeah.
**A** [LYNCH] The problem with your question is that you're not investing in a solar plant — in a nuclear plant.
**Q** I'm not?
**A** [LYNCH] You're not.
**Q** Really?
**A** [LYNCH] Really. You're paying for your electricity that the company produces and sells to you.
**Q** Well, I'm investing in it, I guess, involuntarily, because you're here every year raising my rates in an increment to pay the financing costs for these nuclear plants, right?
**A** [LYNCH] You're buying electricity from the company. I don't think you're investing in anything.
**Q** Well, I grant you, you've not given me a deed. I'd like my mortgage now, please, for my little piece of the rock, but I don't have it. So regardless of how long I stay a customer of SCE&G, I will walk away with no ownership interest in these nuclear units, and your stockholders will continue to retain those assets. They have those assets. So, I mean, this is — you're

drafting me to mortgage your nuclear plants, involuntarily I would say, and I'm simply asking have you made a calculation of how long I've got to wait for that payback?

**A** [LYNCH] I don't find that the question's making sense to me, because you're not investing. You're not putting $20,000 or whatever it is, unless you're buying stock in the plant.

**Q** I'm not?

**A** [LYNCH] No.

**Q** All right. You haven't made that calculation — I take it the fair answer is you just haven't calculated it.

**A** [LYNCH] I don't think it can be calculated. It doesn't make sense to me.

**Q** All right. A moment, please.

Dr. Lynch, are you aware that, in Georgia, where they're building the Vogtle units, the Georgia Commission requires an analysis, every updated review of the plant's construction, of — I guess I'll call it — the going-forward position, the benefits versus costs of going forward with the plant? Are you aware they do that kind of analysis in the Georgia cases?

**A** [LYNCH] Yes, I understand that.

**Q** And are you aware that they project that if they lose only one of the production tax credits, that there will be a net negative instead of a benefit from continuing the plants?

**A** [LYNCH] I don't — yeah, I haven't seen their analysis.

**Q** Have you reviewed the testimony in the most recent docket in Georgia?

**A** [LYNCH] No.

**Q** Are you aware that, in Georgia, they project that there is between a $400-$700 million a year fuel-cost penalty for years of delay in the in-service of the Vogtle units?

**A** [LYNCH] I haven't seen anything from Georgia.

**Q** Have you made a calculation of the fuel-cost losses for delay in operation of the Summer units?

**A** [LYNCH] Oh. We were asked to do that, but I don't have the number — any of the numbers with me.

**Q** You didn't include that in your study? Is it in your testimony?

**A** [LYNCH] No, the testimony has nothing to do with the delay.

**Q** Would you dispute the assessment in Georgia that the costs of delay are approximately $2 million a day?

**A** [LYNCH] I don't know anything about — I don't know what Georgia is doing.

**Q** Okay. Do you know whether the cost of delay in South Carolina for the units approximates $2 million a day?

**A** [LYNCH] I'm thinking it's not that high, but I don't know.

**Q** Have you made that calculation?

**A** [LYNCH] I've had to, but it might've been a year ago, so I don't – I can't remember.

**Q** A moment, please.

Are you aware that, in Georgia, they do calculate the average residential costs of the increment of delay that's being presented to the Commission in Georgia?

**A** [LYNCH] Yeah, I don't know what they do in Georgia.

**Q** Would you dispute that the cost for customers is on the order of $319, the cost of this increment of delay?

**A** [LYNCH] In Georgia?

**Q** In Georgia. So a Vogtle customer or the Georgia Power Company?

**A** [LYNCH] I can't express an opinion.

**Q** You haven't calculated that for South Carolina, for the Summer units, the cost of delay per residential customer?

**A** [LYNCH] No, I have not.

**MR. GUILD**: That's all I have.

**CHAIRMAN HALL**: All right. Commissioners. Commissioner Hamilton.

**COMMISSIONER HAMILTON**: Thank you, Madam Chair.

**EXAMINATION**

**BY COMMISSIONER HAMILTON:**

**Q** Dr. Lynch, somewhat on the same subject you had with Mr. Guild, in your opinion, can SCE&G's anticipated load growth be reliably met — cost-effectively and reliably — with solar and energy efficiency?

**A** [LYNCH] No, not in its entirety. There's room for solar and energy efficiency, of course, and that's in our plan, but it can't replace, for example, the nuclear plants.

**Q** Thank you, sir.

Mr. Jones, could you please explain more about first-of-a-kind testing that the NRC is requiring, and the exposure it may represent to project completion, schedule, and cost?

**A** [JONES] So, since these are the first AP1000s being built in the United States, or any other nuclear design being built for the first time in the United States, the NRC typically requires some first-of-a-kind test. It's a test, once the units essentially have been completed, and you're basically looking to make sure that the systems — the cooling, the reactor — are functioning properly, and you're looking for vibration and other readings that might be out of the norm of what you predicted.

The Chinese plants are going through the same testing. There was some belief on the part of Westinghouse, on the front end, that the tests performed in China should be tests that would be, from a data perspective, just as valid for the plants in the US, so there was some expectation that the NRC would accept the results of the Chinese tests in lieu of having to perform those first-of-a-kind tests in the United States. That turned out not to be the case, though. And what the NRC has said is that, between us and the Vogtle site, we have to perform those first-of-a-kind tests here in the United States.

We would expect — of course, that's going to be after the Chinese perform their tests, and we'd expect to see very similar, if not exactly, the same results. But from a regulatory process perspective, we're required to actually do it here and not simply just take credit for the Chinese tests.

**Q** Okay. When would this have to be done?

**A** [JONES] It's going to be towards the very end of the schedule, as we've gone through all the completion of the systems in the plant and we're able to operate and pressurize the reactor coolant system, run the pumps, that sort of thing.

**Q** Thank you, sir. One other quick question: On page 18 and 19 of your prefiled direct testimony, you discuss Phase II of the cybersecurity upgrades. We're wondering — I'm wondering — how did you determine the $18.8 million cost for Phase II?

**A** [JONES] So, in 2012, we came before the Commission, and the Commission then approved Phase I. Phase I was completed. Phase II — and after Phase II, there will be a Phase III. The phases tend to support what you're going to be doing in the next phase. You define the scope of that, the amount of work required, the amount of effort, that sort of thing. So we use the results of Phase I to look at what we're doing in Phase II.

We've worked with Westinghouse and Chicago Bridge & Iron to develop a realistic estimate of that known scope of work, which is why we're before the Commission asking to fund Phase II. We have not asked for funding for Phase III, because, again, the exact amount of work that needs to be done with Phase III, which would involve not only working with Westinghouse and CB&I, but working with a number of different suppliers of equipment to the plant to figure out exactly what might need to be done to their equipment with respect to cyber, we don't know the scope of that yet. So the Phase II is to get us to that point where we can then move to that final phase, which I would call more an actual implementation phase, working on all the specific pieces of equipment that may need to have software or hardware changes or some other physical protection applied, to meet the NRC's rules in cybersecurity.

**Q** It appears that cybersecurity is going to be an ongoing thing that we have to try to keep up and keep ahead?

**A** [JONES] It is. And of course, it's not just in nuclear plants. It's literally in everything. It's hard to pick up a paper on a daily basis and not see about a cyber-breach potentially at a retail store, banking, many other avenues out there. So it's one of those issues that's here with us, that impacts what we're doing with nuclear plants just as it impacts a lot of other things that we engage in on a daily basis.

**Q** It's hard to think of anything it doesn't affect now.

**A** [JONES] I'm not sure there is anything it doesn't affect anymore.

**Q** Thank you, very much, and I appreciate all of you being here today.

**A** [JONES] Thank you.

**CHAIRMAN HALL**: Commissioner Howard.

**EXAMINATION**

**BY COMMISSIONER HOWARD**:

**Q** Mr. Jones, I'll follow up. What are your expectations for long-term scope growth in the cybersecurity arena?

**A** [JONES] So, scope growth in cybersecurity is a good question, and there's really not a good crystal ball to predict exactly what that's going to look like. We know, with current regulations, what the NRC is requiring us to do. That's not to say those regulations wouldn't change as we go forward. Cybersecurity is a lot like physical security in these plants. Post-9/11, of course, there were a lot of physical security requirements that the NRC put through rulemaking that operating plants had to comply with. Even since 9/11, though, while the design basis threat, for example, hasn't changed, tactics and other requirements that you have to defend against have changed. So physical security continues to be a moving target. Cybersecurity, I think will be the same thing, unless someone invents a cure-all somewhere down the road that's kind of a final fix to any future cyber-issues. But right now, it's hard to envision what that would look like.

**Q** Okay, thank you. Dr. Lynch.

**A** [LYNCH] Yes, sir.

**Q** One of the concerns I had, and a lot of people had when we went through this, essentially was the load growth projection. So since that time five years ago, have you made a load growth projection or has —

**A** [LYNCH] Yeah, we update the forecast every year.
**Q** Wasn't that percentage like 1.5 or something like that, if I remember correctly? How much load growth do you project in a year?
**A** [LYNCH] Yeah, 1.8 percent, going forward.
**Q** That's going forward from now?
**A** [LYNCH] Yes.
**Q** Okay. Ms. Walker, could you tell me – the outcomes for the dispute with Chicago Bridge and you, just for the record, what would be SCE&G's dollar share of the projected project, assuming all disputed costs were favored as costs of CB&I and Westinghouse? Do you understand the question?
**A** [WALKER] Say that – say that again?
**Q** Looking at all disputed costs, so say when the litigation was over, however you decide the disputed costs, all those costs go to you, how would that affect the bottom line? And the same question reversed, if all those costs would go to Chicago Bridge & Iron, what would be the impact?
**A** [WALKER] I think the answer would be – this is assuming that CB&I does, in fact, hit their PF, you know, their 1.15 that their management has committed that they can achieve – because that's the underlying assumption behind the estimate of that completion, the EAC that

they presented to us. I think that the answer would be the total delay, net of the liquidated damages, which would be the $324 million, and then the owner's costs from the delay, which will be the $214 million. And I'm looking at page seven of my testimony, Chart A.

**Q** Okay.

**A** [WALKER] And it shows you the elements of the delay. And if you look on line seven of that chart. it shows you "Total delay and other EAC."

**Q** Right.

**A** [WALKER] So that's where I'm picking up to $324 million. That's net of the liquidated damages, because we know that the delay is going to drive us to have an entitlement to the LDs, the liquidated damages. And then their delay is going to drive us to incur costs on the owner's perspective, that we think that they would be — they should reimburse us for. And that's accounted for in lines 12 through 17, so that's another $214 million.

**Q** Okay.

**A** [WALKER] So it would be the sum of the 324 and the 214, but I think that, you know, if we were to say, you know — if they were to agree, "Okay, we're going to pay you..." If they were going to take responsibility for the delay and they were going to cut a check and pay us for our out-of-pocket costs, assuming they billed us everything and we incurred our costs throughout the life of the project and, at the end, they needed to cut us a check, I think it would be the sum of those two amounts that they would need to cut us a check for.

**Q** And the same on the other side?

**A** [WALKER] Then it would be the exact opposite, yes, sir.

**COMMISSIONER HOWARD**: Okay. Thank you, very much.

**CHAIRMAN HALL**: Commissioner Whitfield.

**VICE CHAIRMAN WHITFIELD**: Thank you, Madam Chairman.

**EXAMINATION**

**BY VICE CHAIRMAN WHITFIELD**:

**Q** Mr. Jones, I've got a couple of questions for you right quick. I think Mr. Byrne probably answered a lot of the questions that would come your way, but I do have one or two for you. And I asked him something similar to this; I'm just going to kind of frame it a little differently. What evidence exists to demonstrate that the consortium and its suppliers have turned the corner, so to speak, and the next batch of equipment and components won't be accompanied by the same level of quality assurance issues and associated delays and cost increases experienced so far?

**A** [JONES] And I assume you're probably most interested in the modules, the structural modules?

**Q** Yes, and any other evidence you have to show that they've turned the corner and things are improving.

**A** [JONES] Right. So I'll back up just a little bit. From a supplier perspective, many of the large components for the plant from different suppliers — literally worldwide — delivery of those, quality of these, has been very good. The real challenging area for us has been the structural modules.

The suppliers that are building the structural modules for the second unit — we've talked a lot about Lake Charles over the last day and a half, but we keep just as close an eye on these other suppliers also. So that includes residents, that includes quality audits, it includes engineering visits to those facilities to make sure they're being constructed per design, it includes leadership visits. In May of this year, in addition to going to China, I spent time in Japan with IHI and Toshiba. They're manufacturing second-unit modules for CA01. Then I also spent time out in Oregon on that same trip, at Oregon Iron Works, who is manufacturing about half of the modules for CA20. So we pay a lot of attention not just to CB&I/Lake Charles and their important role in the module supply chain, but all the other suppliers at the same time.

So what we're seeing on the second unit is few, if any, of the first-time quality issues that we saw on the first unit's modules. We're also seeing more predictable delivery — and that doesn't mean they're always delivering exactly when we want, but not delivery with the delays that we saw on the first unit with the modules coming from Lake Charles. So that doesn't mean, though, that we just kind of sit back and say, "Well, things are going good. We don't need to keep an eye on them anymore. Let's lessen our presence at their facilities, let's lessen our looks through our quality organization." We're staying on top of that, to make sure there isn't a slip there, or isn't a downward trend that we would then become aware too late to do anything about it and turn it around.

**Q** So not to pick on Lake Charles, like you said, but Mr. Byrne had a slide up there that had the facilities — two of them you just mentioned, Oregon and Japan, and Virginia, and I think there were five different places. So what you're telling me is, your evidence is that, not only from Lake Charles but from all these other locations, that you're getting more timely deliveries and you're getting good quality with those modules now, whereas in the past you were not?

**A** [JONES] With respect to the modules for Unit 3, that's correct. So one of the suppliers that Mr. Byrne discussed and showed on that chart is SMCI, which is down in Lakeland, Florida. They are manufacturing first-unit modules for CA03 and some other associated parts for the first unit. Their performance has not been to our standard or expectation. And, in fact, we are evaluating a process there where some of that work might move to our site to physically complete, similar to what we did with Lake Charles. And also, looking at the second unit, which they have responsibility for, and some of that work has been moved back to the Lake Charles site. Which, again, doesn't mean — we think Lake Charles has improved, but again, we're staying on top of them to make sure that any additional work that moves in there, that we don't see them kind of reverting back to their old ways and seeing some repeats of the problems we saw with the first sets of modules that they put through that facility.

So, I would say, modules, until we get the last one on site, our level of oversight and our intrusiveness in their facilities is going to be very, very high, a very high level.

**Q** With the exception of the Central Florida facility, would you say it's fair to say the rest of them, the other ones — Oregon and Japan — on site, Louisiana, Virginia, everywhere else, that you are seeing evidence of improvements, with the exception of what you just mentioned, the Central Florida facility?

**A** [JONES] Yeah, that's been an issue. And then, of course, NNI is making our shield building panels, and one of the change orders we have is to help in mitigating the delivery schedule for those, helping pull that back some. But from a quality perspective, what we've got from NNI, really from the start of shield building panel manufacture has been very good, and that continues to be good from a quality perspective. So that's not really an issue that we've had with NNI, whereas in the past that was an issue we had in Lake Charles.

**Q** So everything else is moving kind of in a positive direction, with the exception of Florida?

**A** [JONES] Pretty much so, yes.

**Q** And that leads me to my next question, and I've got a question about NNI. On page 20 of your prefiled testimony — and if you want to take a minute to get there?

**A** [JONES] I'm there.

**Q** Okay. — you state that the change order related to schedule mitigation for shield building panels reflects

SCE&G's share of the cost to expand the NNI facility. And, of course, that facility being in Newport News, Virginia. The company, you go on to state, has not signed this change order. If through negotiation or litigation, however it's resolved, the company is responsible for a share of those costs — and I think it might've been Mr. Byrne that said that I think y'all were splitting that with Southern, $44 million with Southern Company, I believe he said on the stand — what would SCE&G's benefit be? I mean, if you're investing in that with Southern Company, what does the company — would do they own part of that facility? What would —

**A** [JONES] We would not own it. We would — the concept there is to allow NNI to expand their ability to fabricate and meet delivery schedules that we need for both Unit 2 but primarily Unit 3, and pull those deliveries back to support the proposed commercial operation dates.

**Q** Is it possible — and I didn't really expect you to say you would own it, but is it possible that — well, there's obviously no other new nuclear going on, other than on AP1000s in this country, but is it possible that you and Southern could recoup the investment you've made to where they can supply other projects in other parts of the world, maybe, so that you might get some of that investment back, or is that just something you have to do to try to stay on schedule, or –

**A** [JONES] We feel we need to take this measure to stay on schedule. But, again, as I have in my testimony there, starting on line 11, we presented that order as being reasonable and a prudent cost for completing the units under the BLRA, but we've not waived any claim that we might have against WEC and CB&I for the cost of that expansion.

So, I'm not involved directly in the negotiations – they're continuing at the most senior levels in our company, Santee, and Westinghouse, and CB&I – but I think this is one of the things that's on the table for discussion. While we're agreeing right now something's got to be done in fairly short order to increase the production capacity, and we're willing to go ahead and help share in that cost on the front end, we're not waiving any claims that we have. Again, it ties back to this overall claim that we have about why these guarantees for the substantial dates have been extended out, which really do with the consortium's failure to deliver on the modules.

**Q** And with that being a disputed item, I'm not going to push that any further, but I certainly see what you're saying there.

Ms. Walker, I have a couple of questions for you, and I think that's about going to do it. How much of what SCE&G has paid to the consortium under the 90 percent agreement, where you're paying 90 percent of the invoices, does the company contest? Obviously, I guess every invoice that you're doing that on, if you're paying 90 percent, that means you're contesting that invoice.

**A** [WALKER] Right.

**Q** I guess let me start by asking you what date did SCE&G — or what date or when did SCE&G begin paying disputed invoices at the 90 percent amount?

**A** [WALKER] We started doing that in May of this year.

**Q** So just a couple of months ago?

**A** [WALKER] That's correct.

**Q** Any of the invoices that you've been paying in the last — since then, so in the last few months, have any of the invoices that you have been paying the 90 percent portion on — obviously, that grabs their attention. Have any of those invoices successfully been negotiated, or are there some items that you've already worked out? Or is all of that just being put in a box, so to speak, and sorted through later? Or have you already settled some of those?

**A** [WALKER] No, none of those have been settled. I mean, we've gone through our invoice review process. We actually send them a letter and we share with them the way we make the calculation on what we're going to withhold and not make the payment of, and they acknowledge by formal letter that they're not willing to accept our calculation. So it's in formal writing that we're not going to make the payment, and this is the calculation, and then they formally write back and not accept that as an excuse for not making the payment. And then it stands in unanswered space, if you will.

And so, as of right now, I can tell you that at the end of June or the first of July, we had withheld $3.7 million in payments because of this 90 percent concept.

**Q** Three point seven, okay. And my last question is kind of a two-part. Has SCE&G — since you've only been doing this a couple of months, has SCE&G overpaid anything that you might now consider in dispute? And if so, how do you account for that?

**A** [WALKER] Now, there's a host of other payments that we've been refusing to make payment. Rather than going into a lot of those details, these have been discussed and approved by our senior executives, but as of right now, including the $3.7 million, we're actually withholding about $131 million of cash that has been billed to us by either Westinghouse or CB&I, and we have not made payment, nor have those monies been included in any kind of revised rates. But there's a variety of different reasons that those amounts of money have not been paid, whether it be a deficient invoice or disputed charges. But I think I've lost sight of what your question was.

**Q** Well, that's money that you've not paid. I guess what I was asking, is there anything that's — since you've only been doing this a few months, is there anything that you have maybe already overpaid or made the full payment on, that you now are looking back and saying, "Hey, we might want to dispute this"? And if so, how do you account for that, if you've already paid it?

**A** [WALKER] I think our senior executives made the conscious decision that they did not want to go back and retroactively impose this 90 percent concept, that they were going to do this on a go-forward basis. So we made — you know, we sent a letter and communicated to them that this was yet another step that we were going to make, and we put forth a date it would be made effective, May 1st. And effective May 1st, we started that action. So I think our senior staff made the decision that they did not want to do a retroactive adjustment and go back in time and do a withholding. So I don't think there's any plan to go back and do a catch-up withholding on that.

**Q** Thank you, Ms. Walker. Is there anything else you wanted to add? I know Mr. Guild was questioning Dr. Lynch, and you — there might've been something you were talking about, about the ratepayers, about their percentages or something. Was there anything else you wanted to add?

**A** [WALKER] Well, the only point that I was wanting to make certain was clear was, you know, as far as what's being recovered in rates today, the plant itself is not included in the rates that we are putting forth in the revised rates. What is being included in revised rates today is the financing costs. So as far as recovering the costs of the plant and the depreciation of the plant, those are all going to be recovered in rates after the plant is actually put into commercial operation, which would be at the point — you know, if we meet the schedule like we have proposed in this particular hearing, that would be in June of '19 and June of '20. So, you know, in the time period over the next five or six years, what we would continue to have rolled into rates would be the cost of capital, which is simply the financing element, not the actual investment in CWIP.

So I was just wanting to make sure that there was clarification as to what was going into revised rates. It's not investment in the CWIP, or construction-work-in-progress.

**VICE CHAIRMAN WHITFIELD**: Thank you, Ms. Walker.

That's all I have, Madam Chairman.

**CHAIRMAN HALL**: Okay. Thank you.

Commissioner Fleming.

**COMMISSIONER FLEMING**: Yes.

**EXAMINATION**

**BY COMMISSIONER FLEMING**:

**Q** Mr. Jones, in your testimony, you talk about how it was necessary to alter the site layout in various ways to improve the physical security, and that you negotiated a change order for this work. Why was this need not identified in the beginning of the project?

**A** [JONES] Some –

**Q** Have there been changes in the standards, or –

**A** [JONES] There have been.

**Q** – what has occurred?

**A** [JONES] In the previous discussion on cyber, I referenced physical security, and there are continuing changes that occur year by year in physical security requirements at the operating plans.

So we went back and we did a review of the plant layout. We had to wait — and as I point out in testimony, the design layout and building orientations were finalized before we could lay out, from a site perspective, what security was going to look like, exactly. And so without going into too many details, basically, if you put a building in a certain spot and it's near the nuclear island, for example, then where that building is located could affect not only how you would physically protect the plant, but also security strategy, for example, in protecting the plant. It could affect security resources that are required. So until we had that final plant site layout and building orientations, we couldn't finalize some of the security features that would need to be considered in the final plant design.

They also talk about increasingly stringent requirements. I talked a little bit about security tactics and technology that continue to evolve. Some of the things you can do, though, is alter your site layout to make sure you've got a balance with providing adequate physical protection, but at the same time trying to reduce the number of security features you might need to have to provide that same level of protection. So it's a balancing act, really.

So that's what we've really got through. We've got far along enough on the project, the design of all the buildings that will be surrounding the turbine island, the nuclear island, that we can start really figuring out exactly what was going to be needed for physical security.

So we talk here about three phases. This is another one of the change orders that's phased. Phase 1 is the engineering, construction planning, and development of the estimates for Phase 2 and Phase 3. Phase 2 is construction work related to the infrastructure changes. And then Phase 3 is actually the remaining security modifications that would need to be made, such as fencing, ballistic — bullet-resistant enclosures, things like that. And so, what we're asking for with this current change order is the funding for Phase 1 and Phase 2. We would come back in a subsequent proceeding for Phase 3.

**Q** And have you been working with security experts from the very beginning?

**A** [JONES] We have.

**Q** Both cyber and physical —

**A** [JONES] Yes.

**Q** — security? And has it evolved, as you've —

**A** [JONES] It's one of these things where, if — I was heavily involved in my previous job at another utility with post-9/11 security changes at three different nuclear sites. And the level of change between the post-9/11 time period and now is a night-and-day difference almost. Even prior to 9/11, security for nuclear power plants was very strong, very effective. Post-9/11, it went up another notch and it's continued to go up from that point on.

**Q** But you feel confident that you're doing the best that you can with the —

**A** [JONES] I do. And to be quite honest with you, it's like any other area. Security folks, there's lots of things they would like to have, but it's a senior management responsibility — my responsibility — to make sure I understand at a level of detail where I can question what features' expenses might be needed, potentially ask if alternatives have been developed, make sure we've explored every potential option to, number one, provide the physical security that we're required to have from a regulatory perspective, but, number two, do it in as cost-effective a manner as possible.

**Q** And we've heard a lot about the critical paths and the time schedules as being challenges, moving forward. But what would you say is the biggest risk or challenge, as you're at this stage of the project, moving forward, other than those two elements?

**A** [JONES] I think the biggest challenge is — again, design has progressed quite a bit from where it was three years ago, for example, when I first came on this project. Still some design work left to do, but there's more certainty in the design. We talked in our testimony and in some of the testimony given here verbally about challenges with construction efficiency: the consortium — CB&I, in particular — meeting a productivity factor which they originally projected to us.

So I think that's going to be a continuing challenge, is the construction efficiency. And then there are certain things that we know, from a hardware perspective — like shield building panels and subsequent shield building construction on site — that we need to get a little bit further down the road to actually have our finger on exactly the level of confidence we have that that will get finished exactly when we project, or potentially earlier if things go better than expected. Those are the bigger things that are facings us right now. It's really getting beyond the bricks-and-mortar portion of this plant, to start with the other commodity installations such as the wiring, the cabinets — electrical cabinets — things like that, control systems, that will follow. But those are the things we're focused on right now.

**Q** Okay. Thank you. And, Ms. Walker, you talk about the increased fees for participation in the AP1000 owners' group? What entity receives the fees that you pay to participate in A.P.O.G., or APOG — what do you call it, APOG?

**A** [WALKER] APOG. APOG is a user group and there's actually — I think there's five utilities now. We actually pay fees into that, but we're also the beneficiary of most of the products that are developed, so where we may pay fees in, so do the other four utilities, and what we're finding is we pay fees in, but then what we also find is that we may ultimately get refunds of our fees in the way of getting work products that we don't ultimately have to bear the cost of. So they may take the responsibility of developing sets of procedures.

**Q** And who is "they"?

**A** [WALKER] The five utilities.

**Q** Okay, so it's staffed by people from each of the five utilities?

**A** [WALKER] Exactly, on a volunteer basis, so —

**Q** And what are the five utilities?

**A** [WALKER] I think it was the five utilities — or five of —

**A** [JONES] Four now, with Progress and Duke.
**A** [WALKER] Yeah. Who were the original?
**A** [JONES] So, originally it was Duke, Progress, Florida Power & Light, us, of course, and Southern Company. And now with Duke and Progress combined, it's technically four utilities.
**A** [WALKER] Yes, so —
**Q** Okay.
**A** [WALKER] — four utilities, and —
**Q** So it's the southeastern —
**A** [WALKER] Right. And so they all, you know, share resources — human resources, primarily — and then they hire consultants, or they may share human resources from their engineering departments and develop different department or operational procedures, or whatever. Well, as of right now, Southern and V.C. Summer are the only two AP1000 projects that really need those products, so those products end up being used by our project in lieu of us having to expend 100 percent of our resources to develop those products.
So we may pay a fee, but they're also paying the same fee, but right now they're not getting the benefit of the products that are coming out of those joint efforts. So that's what APOG represents is the joining of these four groups in an effort to save money, to be

able to collectively develop products that service what was going to be four different projects.

**Q** So the other two may at some point be moving forward on projects?

**A** [WALKER] That's the way I understand it.

**Q** Okay.

**A** [WALKER] They still feel like AP1000 is the technology that they have an interest in.

**Q** Uh-huh. So this group will stay together, even after the construction of Vogtle and V.C. —

**A** [WALKER] V.C. Summer? That —

**Q** — Summer 2 and 3 are completed?

**A** [WALKER] That's the way it appears.

**Q** Okay.

**A** [WALKER] Then NuStart was one of them that had a finite life. I think that was developed at the very beginning, and that was before the AP1000 group was established. And NuStart has since kind of closed down. I think there were more than just the four utilities. I think there may have been 10?

**A** [JONES] It was focused on the initial licensing.

**A** [WALKER] Yeah, it was the licensing effort for utilities. So, since then, that has kind of closed down, and so you don't see much activity in NuStart. But AP1000 is still a user group, and we expect that to go on for some period of time.

**Q** So it's kind of a sharing of information?

**A** [WALKER] Right, which is very typical of what you see in the nuclear industry. They're very open in sharing, and learn from each other's plants. Very transparent, which I think the NRC has pushed and encouraged so that the NRC doesn't have to stipulate every regulation. Instead, they self-regulate through user groups.

**Q** And you don't have to learn or form experience in a solitary –

**A** [WALKER] Exactly.

**COMMISSIONER FLEMING**: You can share? All right. Very good. Thank you.

**CHAIRMAN HALL**: Commissioner Elam.

**EXAMINATION**

**BY COMMISSIONER ELAM:**

**Q** Good afternoon. Mr. Jones, I believe Commissioner Whitfield was discussing with you some challenges with the shield building panels. Do you recall that?

**A** [JONES] Yes.

**Q** And on page 19 of your prefiled testimony, you discuss a potential delay of three months for Unit 2 and five months for Unit 3. Are these delays in addition to the ones the Commission is specifically considering in this docket, or –

C E R T I F I C A T E

I, Jo Elizabeth M. Wheat, CVR-CM-GNSC, Notary Public in and for the State of South Carolina, do hereby certify that the foregoing is, to the best of my skill and ability, a true and correct transcript of proceedings had and testimony adduced in a hearing held in the above-captioned matter before the PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA;

That the witnesses appearing during said hearing were sworn or affirmed by me to state the truth, the whole truth, and nothing but the truth;

IN WITNESS WHEREOF, I have hereunto set my hand and seal, on this the 7th day of August, 2015.

Jo Elizabeth M. Wheat

Jo Elizabeth M. Wheat, CVR-CM/M-GNSC
Hearings Reporter, PSC/SC
My Commission Expires: January 27, 2021.